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2 ; Search time 39 Seconds
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1937.259 Million cell updates/sec

Sequence: 1 MESSKKMDAGTLPNPPLK.....IKDDTIFIKVIYDTSLLPDP 567

Total number of hits satisfying chosen parameters: 908470

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Maximum DB seq length: 2000000000
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Post-processing: Minimum Match On

Listing first 45 summaries

Database

1:	/S1DS2/gcgdata/genseq/genseqp-emb1/AA1980.DAT *
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4:	/S1DS2/gcgdata/genseq/genseqp-emb1/AA1983.DAT *
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19:	/S1DS2/gcgdata/genseq/genseqp-emb1/AA1998.DAT *
20:	/S1DS2/gcgdata/genseq/genseqp-emb1/AA1999.DAT *
21:	/S1DS2/gcgdata/genseq/genseqp-emb1/AA2000.DAT *
22:	/S1DS2/gcgdata/genseq/genseqp-emb1/AA2001.DAT *
23:	/S1DS2/gcgdata/genseq/genseqp-emb1/AA2002.DAT *

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

## SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	2994	100.0	567	23	AA017756	Murine CD40 receptor
2	2974	99.3	567	23	ABB57054	Mouse ischaemic co
3	2886.5	96.4	568	18	AAW27431	Human CRAPI-a (TRAF3
4	2886.5	96.4	568	21	AAV98166	Human TRAF3 protei
5	2886.5	96.4	568	23	AA017757	Human CD40 recepto
6	2886.5	96.4	690	18	AAW27428	Human CRAPI-b (TRAF3
7	2880.5	96.2	568	17	AAW03146	ILMP associated pr
8	2849	95.5	567	22	AAAB67615	amino acid sequenc
9	2849	95.2	567	17	AAAB9259	Full-length CD40 b
10	2726	91.0	543	18	AAW27432	Human CRAPI isoform

11	2726	91.0	665	18	AAW27433	Human CRAF1-b Isof
12	2710	90.5	543	17	AAAP8833	CD40 associated pr
13	2558.5	85.5	516	18	AAW27436	Human CRAF1-b Isof
14	2558.5	85.5	638	18	AAW27437	Human CRAF1-b Isof
15	2552.5	85.3	512	18	AAW27434	Human CRAF1 Isofor
16	2552.5	85.3	634	18	AAW27435	Human CRAF1-b Isof
17	2399.5	80.1	472	17	AAAP8835	CD40 associated pr
18	2102.5	70.2	438	21	AAAB15721	Delta121 TRAF-3 de
19	1613	53.9	347	21	AAAB15722	Delta221 TRAF-3 de
20	1381	46.1	282	21	AAAY9565	Human TRAF3 delta-3
21	1243	41.5	558	18	AAW27609	Murine TRAF5, a no
22	11843	41.5	558	18	AAW29257	Murine TRAF5, a no
23	1189.5	39.7	557	18	AAW27610	Human TRAF5, a no
24	1189.5	39.7	557	18	AAW29258	Human TRAF5, a no
25	1189.5	39.7	557	21	AAAY8168	Human TRAF5, a no
26	1108	37.0	228	21	AAAB07003	Human TRAF3(NC)-CA
27	953	31.8	181	17	AAAP8834	Human TRAF3(NC)-CA
28	842	28.1	155	23	AAO17782	CD40 associated pr
29	837.5	28.0	501	23	ABBS7335	CD40 receptor-asso
30	836.5	27.9	501	23	ABBS7335	Mouse Ischemic co
31	831	27.8	157	17	AAAR0578	Mouse TRAF2, Mus
32	745.5	24.9	501	17	AAAR8836	CD40 associated pr
33	745.5	24.9	501	21	AAAY8165	Human TRAF1 protei
34	730	24.4	422	22	AAAY11903	Human TNF-receptor
35	641.5	21.4	416	17	AAAY11901	Human TRAF2 splice
36	641.5	21.4	416	17	AAAO3147	Eupstein-Barr induc
37	640	21.4	409	17	AAAY8164	Human TRAF1 protei
38	596.5	19.9	336	22	AAAR0577	Mouse TRAF1, Mus
39	568.5	19.0	417	21	AAAY11902	Human TRAF2TR var1
40	556.5	18.6	470	18	AAAY87785	Human TNFR AF1 C1
41	553.5	18.5	470	21	AAW25766	Human CAR1, Homo
42	548.5	18.3	243	21	AAAY8167	Human TRAF4 protei
43	548	18.3	522	18	AAAB7002	Human TRAF2(NC)-CA
44	548	18.3	522	21	AAAB2113	Tumour necrosis fa
45	548	18.3	522	18	AAAY9819	Human TRAF6 protei
46	548	18.3	522	23	AAAY9819	Human TRAF6 (TNF r

## ALIGNMENTS

RESULT 1	
AA017756	
ID	AA017756 standard; protein: 567 AA.
XX	
AC	AA017756;
XX	
DT	15-AUG-2002 (first entry)
XX	
DE	Murine CD40 receptor-associated factor 1 (CRAFT).
XX	
KW	Mouse; CD40 receptor-associated factor 1; CRAFT; organ rejection;
KW	autoimmune disease; apoptosis; infection; fibrosis; liver disease;
KW	kidney disease; vascular disease; gastrointestinal disease; vasotropic;
KW	immunosuppressive; antiinflammatory; nephrotic; antiallergic;
KW	anlaemic; anti-thyroid; antirheumatic; antiarthritic; cadant;
KW	dermatologic; haemostatic; antidiabetic; antilarteriosclerotic;
KW	antipsoriatic; bladder disease; human herpesvirus 4; Epstein-Barr virus
XX	
OS	Mus sp.
XX	
PN	US2002031522-A1.
XX	
PD	14-MAR-2002.
XX	
PF	10-MAR-1997; 97US-0813323.
XX	
PR	11-MAR-1996; 96US-013199P.
XX	
PA	(BALT/) BALTIMORE D.
PA	(CHEN/) CHENG G.
PA	(YEZ/) YE Z.
PA	(LEDE/) LEDERMAN S.
PA	(CLEA/) CLEARY A.

XX Baltimore D, Cheng G, Ye Z, Lederman S, Cleary A;  
 PI WPI: 2002-451449/48.  
 DR N-PSDB: AAL46792.  
 XX  
 PT New CD40 receptor-associated factor 1 capable of inhibiting  
 PT CD40-mediated cell activation, useful for treating e.g. inflammatory  
 PT diseases, autoimmune diseases, allergic reaction, or organ transplant  
 PT rejection  
 XX  
 PS Disclosure: Fig 1: 31pp; English.  
 XX  
 CC The present invention relates to a protein comprising a CD40 receptor-  
 CC associated factor 1 (CRAF1) truncated by about 323 - 414 amino acid  
 CC residues at the amino terminus, or its variant, which is capable of  
 CC inhibiting CD40-mediated cell activation. The protein is useful for  
 CC treating a condition characterised by an aberrant or unwanted level of  
 CC CD40-mediated intracellular signaling, such as: organ rejection,  
 CC autoimmune diseases such as rheumatoid arthritis, myasthenia gravis,  
 CC systemic lupus erythematosus, Grave's disease, idiopathic  
 CC thrombocytopenia purpura, haemolytic anaemia, or diabetes mellitus, an  
 CC allergic response (e.g. hay fever or a penicillin allergy), a condition  
 CC dependant on CD40 ligand-induced activation of fibroblast cells (e.g.  
 CC arthritis, scleroderma, or fibrosis), a condition dependant on CD40-  
 CC ligand-induced activation of endothelial cells (e.g. atherosclerosis,  
 CC reperfusion injury, allograft rejection, organ rejection, or chronic  
 CC inflammatory autoimmune diseases, a condition dependant on CD40  
 CC ligand-induced activation of epithelial cell, specifically keratinocytes  
 CC (e.g. psoriasis), or an inflammatory kidney disease (e.g. membranous  
 CC glomerulonephritis, minimal change disease/acute tubular necrosis, pauci-  
 CC immune glomerulonephritis, or focal segmental glomerulosclerosis). The  
 CC present sequence is the murine CRAF1 protein.  
 CC  
 XX Sequence 567 AA:  
 Query Match 100.0%; Score 2994; DB 23; Length 567;  
 Best Local Similarity 100.0%; Pred. No. 5e-241;  
 Matches 567; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
 QY 1 MESSKKMDAAGTLQPNPPLKLPDRGAGSVLPBGGYKKEKVEKVEKCKRCLVLC 60  
 DB 1 MESSKKMDAAGTLQPNPPLKLPDRGAGSVLPBGGYKKEKVEKVEKCKRCLVLC 60  
 QY 61 NPKOTEGHGFSCMAALLSSSPKCTACQESIIKDKYKNCCKREILALQVYRNES 120  
 DB 61 NPKOTEGHGFSCMAALLSSSPKCTACQESIIKDKYKNCCKREILALQVYRNES 120  
 QY 121 RGAEOQLTLGLHLVHLKNECOFELPCLRADCKEYKLRKDLRHVEKACKYREATCSHCK 180  
 DB 121 RGAEOQLTLGLHLVHLKNECOFELPCLRADCKEYKLRKDLRHVEKACKYREATCSHCK 180  
 QY 181 SQVPMIKLOKHEDTDCPCVVVSCPHKCSVOTLLRSELASHLSECVAAPSTCSKRRIGCVF 240  
 DB 181 SQVPMIKLOKHEDTDCPCVVVSCPHKCSVOTLLRSELASHLSECVAAPSTCSKRRIGCVF 240  
 QY 241 OGTMQOIKAHASAVOHVHLKEMSNLSKRYKSLONEVEYKNSIOSAHNIGCFEIE 300  
 DB 241 OGTMQOIKAHASAVOHVHLKEMSNLSKRYKSLONEVEYKNSIOSAHNIGCFEIE 300  
 QY 301 IEROKEMLRNNEKILHLQRYIDSQAERKLELDEIRPFRONMEADSMKSSVESLQNRV 360  
 DB 301 IEROKEMLRNNEKILHLQRYIDSQAERKLELDEIRPFRONMEADSMKSSVESLQNRV 360  
 QY 361 TELESVKSAGQARNRGLLESLSRHDQTLVSHDITLAMDRLRFVLETFASNGVLIWK 420  
 DB 361 TELESVKSAGQARNRGLLESLSRHDQTLVSHDITLAMDRLRFVLETFASNGVLIWK 420  
 QY 421 IRDKRRKROEAVMGKTSLSYQPFYTGFGKMCARVYLNGDGGKGTHTSLFFVIRGE 480  
 DB 421 IRDKRRKROEAVMGKTSLSYQPFYTGFGKMCARVYLNGDGGKGTHTSLFFVIRGE 480  
 QY 481 YDALLPWFKOKVTLMLMDGSSRRHLGDAFPDPNSSSFKKPTGEMNIASGCPVFAQT 540

DB 481 YDALLPWFKOKVTLMLMDGSSRRHLGDAFPDPNSSSFKKPTGEMNIASGCPVFAQT 540  
 QY 541 VLENGTYIKDDTIFIKYIVTSDLPDP 567  
 DB 541 VLENGTYIKDDTIFIKYIVTSDLPDP 567  
 RESULT 2  
 ID ABB57054 standard; Protein: 567 AA.  
 AC ABB57054;  
 DT 07-MAR-2002 (first entry)  
 DE Mouse ischaemic condition related protein sequence SEQ ID NO:98.  
 KW Mouse; ischaemia; compressive ischaemia; occlusive ischaemia;  
 KW vasospastic ischaemia; ischaemic condition; ischaemic disease.  
 OS Mus musculus.  
 PN WO200188188-A2.  
 PD 22-NOV-2001.  
 XX 18-MAY-2001; 2001WO-JP04192.  
 PF 18-MAY-2000; 2000JP-0145977.  
 PR (UYN1-) UNIV NIHON SCHOOL JURIDICAL PERSON.  
 PA Ishikawa K, Asai S, Takahashi Y, Nagata T, Ishii Y;  
 PI WPI: 2002-034733/04.  
 DR N-PSDB: AB199264.  
 QY Examining the ischemic condition (e.g. occlusive ischemia) by measuring  
 PT expression levels of particular genes defined in the specification or  
 PT by determining the expression profile of a gene group comprising these  
 PT genes -  
 PS Claim 2; Page 297-300; 2690pp; English.  
 CC The present invention describes a method for examining ischaemic  
 CC conditions, comprising measuring the expression levels of particular  
 CC genes (I) in a test sample or determining the expression profile of a  
 CC gene group in the sample comprising genes selected from (I). The method  
 CC is useful for examining the ischaemic condition (e.g. compressive  
 CC ischaemia, occlusive ischaemia or vasospastic ischaemia) by measuring  
 CC expression levels of particular genes (AB199202 to AB199912, encoding  
 CC the protein sequences in ABB57020 to ABB57374) or by determining the  
 CC expression profile of a gene group comprising these genes. The  
 CC expression levels or expression profiles produced by these genes are  
 CC used as an indicator when screening for ischaemic condition improving  
 CC drugs or therapeutics for ischaemic diseases. AB199913 and AB199914  
 CC represent PCR primers for a mouse ischaemic condition related sequence,  
 CC which are used in the exemplification of the present invention.  
 XX  
 SQ Sequence 567 AA:  
 Query Match 99.3%; Score 2974; DB 23; Length 567;  
 Best Local Similarity 99.5%; Pred. No. 2.3e-239;  
 Matches 564; Conservative 1; Mismatches 2; Indels 0; Gaps 0;  
 QY 1 MESSKKMDAAGTLQPNPPLKLPDRGAGSVLPBGGYKKEKVEKVEKCKRCLVLC 60  
 DB 1 MESSKKMDAAGTLQPNPPLKLPDRGAGSVLPBGGYKKEKVEKVEKCKRCLVLC 60  
 QY 61 NPKOTEGHGFSCMAALLSSSPKCTACQESIIKDKYKNCCKREILALQVYRNES 120  
 DB 61 NPKOTEGHGFSCMAALLSSSPKCTACQESIIKDKYKNCCKREILALQVYRNES 120

QY 121 RGAEGQLTLGLHLVHLKNECOFELPCLRADCKEYLRKDLRPHVEKACKYREATCSHCK 180  
 DB 121 RGAEGQLTLGLHLVHLKNECOFELPCLRADCKEYLRKDLRPHVEKACKYREATCSHCK 180  
 QY 181 SQVPMKTLQKHEDTDCPCVAVSCPHKCSVOTLLRSELSEAHLSVCVNAPTCSFKRYGVF 240  
 DB 181 SQVPMKTLQKHEDTDCPCVAVSCPHKCSVOTLLRSELSEAHLSVCVNAPTCSFKRYGVF 240  
 QY 241 QGNNOQIKAEASSAVOHVNLKEMSNLEKKVSLLONESVEKNKSTIOSLHNOICFELIE 300  
 DB 241 QGNNOQIKAEASSAVOHVNLKEMSNLEKKVSLLONESVEKNKSTIOSLHNOICFELIE 300  
 QY 301 IERQKEMLRNNESEKILHLQVIDSOAEKLELDEKIRPRQNMEEADSKSSVESIQNRY 360  
 DB 301 IERQKEMLRNNESEKILHLQVIDSOAEKLELDEKIRPRQNMEEADSKSSVESIQNRY 360  
 QY 361 TELESYDKSAGQAAARTGLESLSRHQDTLSVHDIRLADMOLRFQVLETASTYNGVLIWK 420  
 DB 361 TELESYDKSAGQAAARTGLESLSRHQDTLSVHDIRLADMOLRFQVLETASTYNGVLIWK 420  
 QY 421 IRDYKRRKQEAHVNGKTLSTLYSOPEYTGFGYKMCARVYLNGDMGKGTLSLFFVIMRGE 480  
 DB 421 IRDYKRRKQEAHVNGKTLSTLYSOPEYTGFGYKMCARVYLNGDMGKGTLSLFFVIMRGE 480  
 QY 481 YDALLPMPFKQKVTLLMLMDQSSRRHLGDAFKRDPNSSFRRPTGEMNIASGCPVFAQT 540  
 DB 481 YDALLPMPFKQKVTLLMLMDQSSRRHLGDAFKRDPNSSFRRPTGEMNIASGCPVFAQT 540  
 QY 541 VLENGTYIKDDTIFIKVIVDTSDLPDP 567  
 DB 541 VLENGTYIKDDTIFIKVIVDTSDLPDP 567

RESULT 3  
 AAM27431  
 ID AAM27431 standard: Protein: 568 AA.

AC AAM27431:

DT 27-MAR-1998 (first entry)

DE Human CRAF1-a (TRAF-3-p55) polypeptide.

KM CD40 receptor associated factor 1; CRAF1-a; TRAF-3; p55; human;  
 KM CD40 mediated intracellular signalling; organ rejection; allergy;  
 KM hay fever; autoimmune disease; systemic lupus erythematosus;  
 KM rheumatoid arthritis; myasthenia gravis; Graves' disease;  
 KM idiopathic thrombocytopenia purpura; hemolytic anaemia;  
 KM diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;  
 KM apoptosis; Kletter's syndrome; spondylarthritits; Lyme disease; HIV;  
 KM syphilis; tuberculosis; arthritits; scleroderma; pulmonary fibrosis;  
 KM pneumoconiosis; adult respiratory distress syndrome; pneumonitis;  
 KM asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis;  
 KM atherosclerosis; multiple sclerosis; glomerulonephritis;  
 KM glomerulosclerosis; glomerulopathy; kidney disease; nephropathy;  
 KM endocarditis; leprosy; malaria; Goodpasture's disease;  
 KM Henoch-Schoenlein purpura; polyarteritis; multiple myeloma;  
 KM Wegener's granulomatosis; cryoglobulinemia;  
 KM Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome;  
 KM AIDS; oesophageal dysmotility; inflammatory bowel disease;  
 KM bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;  
 KM Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;  
 KW gene therapy; diagnosis.

XX Homo sapiens.

OS Key Location/Qualifiers

FT 117..141

FT /note= "zinc finger 1 (Zn binding to Cys-117,  
 Cys-124, His-136 and Cys-141)."

FT Region

148..170  
 /note= "zinc finger 2 (zinc binding to Cys-148,

FT Cys-153, His-165 and Cys-170"  
 FT Region 177..197  
 FT /note= "zinc finger 3 (Zn binding to Cys-177,  
 Cys-180, His-192 and Cys-197"  
 FT Region 204..225  
 FT /note= "zinc finger 4 (Zn binding to Cys-204,  
 Cys-208, His-221 and Cys-225)"  
 FT Region 232..259  
 FT /note= "zinc finger 5 (Zn binding to Cys-232,  
 Cys-239, His-251 and 259-381"

MO9734473-A1.

25-SEP-1997.

21-MAR-1997; 97WO-US05076.

18-SEP-1996; 96US-0026584.

21-MAR-1996; 96US-0013820.

01-MAY-1996; 96US-0016626.

01-MAY-1996; 96US-0016659.

(UYCO ) UNIV COLUMBIA NEW YORK.

Cleary AM, Frank DM, Lederman S;  
 WPI: 1997-479907/44.  
 N-PSDB: AAT90123.

PT Protein comprising CRAF1-b domain capable of inhibiting CD40  
 PT mediated cell activation - useful to treat conditions characterised  
 PT by aberrant or unwanted level of CD40 mediated intracellular  
 PT signalling

Example 1; Fig 1D-O; 158bp; English.

XX This polypeptide comprises a CRAF1 (TRAF-3) protein designated  
 XX CRAF1-a or TRAF-3-p55, p55, CRAF1(p55), TRAF-3(p55) or CRAF1(p60).  
 XX It is encoded by exons 4-13 of the human CRAF gene (see AAT90123).  
 XX CRAF1-a is a signalling protein that interacts with the cytoplasmic  
 XX tail of B cell surface molecule CD40 and mediates a variety of  
 XX T-dependent effects on B cell activation and differentiation. A  
 XX higher mol.wt. CRAF1, designated CRAF1b (see AAM27428), has also  
 XX been identified, as well as isoforms p5 (see AAM27429), p15 (see  
 XX AAM27430) and variants of CRAF1-a and CRAF-b (see AAM27432-37) that  
 XX comprise different combinations of zinc fingers. CRAF1 peptides,  
 XX comprising from 0-4 zinc finger domains, and nucleic acids encoding  
 XX them, can be used to inhibit CD40 ligand activation of cells that  
 XX express CD40 on their surface, particularly by introducing the  
 XX nucleic acid molecule into the cells, useful to treat conditions  
 XX characterised by an aberrant or unwanted level of CD40 mediated  
 XX intracellular signalling, such as organ rejection, or a CD40  
 XX dependent immune response in a subject receiving gene therapy. The  
 XX condition may be an allergic response or an autoimmune response, or  
 XX may be dependent on CD40 ligand-induced activation of epithelial  
 XX cells, an inflammatory kidney disease, a smooth muscle cell-  
 XX dependent disease, or a condition associated with Epstein-Barr  
 XX virus.

SQ Sequence 568 AA:

Query Match 96.4%; Score 2886.5; DB 18; Length 568;  
 Best Local Similarity 96.1%; Pred. No. 4.7e-232;  
 Matches 546; Conservative 7; Mismatches 14; Indels 1; Gaps 1;

QY 1 MESSKKDAAGTIQPNPPLKLPDRGAGS-VLVEGQGYKFKVTKVEDKYCKECRLVL 59

DB 1 MESSKKMDSPGALQTNPLTLHTDRSAGTPVFPVPEGQGYKFKVTKVEDKYCKECHVL 60

QY 60 CNPKOTFCGHRFCESCMAALSSSPKCTACQCSIIKDKVFNCKCKRETLAQQVCRNE 119  
 DB 61 CSPKOTFCGHRFCESCMAALSSSPKCTACQCSIIKDKVFNCKCKRETLAQQVCRNE 120



XX DE Human CD40 receptor-associated factor 1 (CRAF1).

KW Human; CD40 receptor-associated factor 1; CRAF1; organ rejection;

XX KW autoimmune disease; apoptosis; infection; fibrosis; liver disease;

KW kidney disease; vascular disease; gastrointestinal disease; vasculitic;

KW immunosuppressive; anti-inflammatory; nephrotic; anti-allergic;

KW anlaemic; anti-thyroid; antirheumatic; antiarthritic; cardiac;

KW dermatological; haemostatic; antidiabetic; antiarteriosclerotic;

KW antiproliferative; bladder disease; human herpesvirus 4; Epstein-Barr virus.

XX OS Homo sapiens.

XX PN US2002031522-A1.

XX PD 14-MAR-2002.

XX PF 10-MAR-1997; 9705-0813323.

XX PR 11-MAR-1996; 96US-013199P.

XX PA (BALT/) BALTIMORE D.

XX PA (CHEN/) CHENG G.

XX PA (YEZ/) YE Z.

XX PA (LEDER/) LEDERMAN S.

XX PA (CLEA/) CLEARY A.

XX PI Baltimore D, Cheng G, Ye Z, Lederman S, Cleary A;

XX DR WPI: 2002-451449/48.

XX DR N-PSDB: AAL46793.

XX PT New CD40 receptor-associated factor 1 capable of inhibiting

PT CD40-mediated cell activation, useful for treating e.g. inflammatory

PT diseases, autoimmune diseases, allergic reaction, or organ transplant

PT rejection

XX PS Disclosure; Fig 1; 31pp; English.

XX PS

CC The present invention relates to a protein comprising a CD40 receptor-

CC associated factor 1 (CRAF1) truncated by about 323 - 414 amino acid

CC residues at the amino terminus, or its variant, which is capable of

CC inhibiting CD40-mediated cell activation. The protein is useful for

CC treating a condition characterised by an aberrant or unwanted level of

CC CD40-mediated intracellular signalling, such as: organ rejection,

CC autoimmune diseases such as rheumatoid arthritis, myasthenia gravis,

CC systemic lupus erythematosus, Grave's disease, idiopathic

CC thrombocytopenia purpura, haemolytic anaemia, or diabetes mellitus, an

CC allergic response (e.g. hay fever or a penicillin allergy), a condition

CC dependent on CD40 ligand-induced activation of fibroblast cells (e.g.

CC arthritis, scleroderma, or fibrosis), a condition dependent on CD40-

CC ligand-induced activation of endothelial cells (e.g. atherosclerosis,

CC reperfusion injury, allograft rejection, organ rejection, or chronic

CC inflammatory autoimmune diseases, a condition dependent on CD40

CC ligand-induced activation of epithelial cell, specifically keratinocytes

CC (e.g. psoriasis), or an inflammatory kidney disease (e.g. membranous

CC glomerulonephritis, minimal change disease/acute tubular necrosis, pauci-

CC immune glomerulonephritis, or focal segmental glomerulosclerosis). The

CC present sequence is the human CRAF1 protein.

XX

XX Sequence 568 AA:

SO

Query Match 96.4%; Score 2886.5; DB 23; Length 568;

Best Local Similarity 96.1%; Pred. No. 4.7e-232;

Matches 546; Conservative 7; Mismatches 14; Indels 1; Gaps 1;

QY 1 MESSKMDAAGTLPNPKLQPDGAGS-VLVEPGGKKEKFKVTVEDKYCEKRLVL 59

DB 1 MESSKMDSPGALQTPNPKLHTDRSAGTPVEPEGGKKEKFKVTVEDKYCEKRLVL 60

QY 60 CNKQTECGHRCESCMALLSSSSPKCACQESTIKDKVFPDNCCKREILLLOYCCRE 119

DB 61 CSPKQTECGHRCESCMALLSSSSPKCACQESTIKDKVFPDNCCKREILLLOYCCRE 120

QY 120 GRGCAEQLTLGLVHLNKEQFELPCLRADCKEKYLRKDLRPHVEKACKYREATCSHC 179

DB 121 SRGCAEQTLTLGLVHLNKEQFELPCLRADCKEKYLRKDLRPHVEKACKYREATCSHC 180

QY 180 KSOVMKILQHEPDCCVAVSPCHKSVOTLLRSELSAHLSCVNAFSCSKRGCV 239

DB 181 KSOVMKILQHEPDCCVAVSPCHKSVOTLLRSELSAHLSCVNAFSCSKRGCV 240

QY 240 FQGTNQIKAHBASAVQHVNLKEMVNSLEKYSLLQNESVEKNKSQSLAHQICSEI 299

DB 241 FQGTNQIKAHBASAVQHVNLKEMVNSLEKYSLLQNESVEKNKSQSLAHQICSEI 300

QY 300 EIERKKEMLRNNESEKILHLQVIVDSQAEKLEDEKREPFQNNWDEADSMKSSVESIQNR 359

DB 301 EIERKKEMLRNNESEKILHLQVIVDSQAEKLEDEKREPFQNNWDEADSMKSSVESIQNR 360

QY 360 VTELESYVKSAGQAAARNTGLLESQLSRHDOFTLSVHDIRLADMDLRFQVLETAASYNGVLIW 419

DB 361 VTELESYVKSAGQAAARNTGLLESQLSRHDOFTLSVHDIRLADMDLRFQVLETAASYNGVLIW 420

QY 420 KIRDYKRRKQBAVNGKTLISYQEPFYTGFGYKMCARVYLNGDMGKTHLSLFPVIMRG 479

DB 421 KIRDYKRRKQBAVNGKTLISYQEPFYTGFGYKMCARVYLNGDMGKTHLSLFPVIMRG 480

QY 480 EYDALPMPFKQKVTLMMDGSSRRHGDAPFKDPNNSSKKKTGEMNIAAGCPVVAQ 539

DB 481 EYDALPMPFKQKVTLMMDGSSRRHGDAPFKDPNNSSKKKTGEMNIAAGCPVVAQ 540

QY 540 TVLENGTYIKDDTFIKYIVTSDLPDP 567

DB 541 TVLENGTYIKDDTFIKYIVTSDLPDP 568

RESULT 6

ID AAW27428 standard; Protein: 690 AA.

XX

XX AAW27428:

XX 27-MAR-1998 (first entry)

XX Human CRAF1-b (TRAF-3-p70) polypeptide.

KW CD40 receptor associated factor 1; CRAF1-b; TRAF-3; p70; human;

KW CD40 mediated intracellular signalling; organ rejection; allergy;

KW hay fever; autoimmune disease; systemic lupus erythematosus;

KW rheumatoid arthritis; myasthenia gravis; Graves' disease;

KW idiopathic thrombocytopenia purpura; haemolytic anaemia;

KW diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;

KW apoptosis; Reiter's syndrome; spondylarthritis; Lyme disease; HIV;

KW syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis;

KW pneumoconiosis; adult respiratory distress syndrome; pneumonitis;

KW asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis;

KW atherosclerosis; multiple sclerosis; glomerulonephritis;

KW glomerulosclerosis; glomerulopathy; kidney disease; nephropathy;

KW endocarditis; leprosy; malaria; Goodpasture's disease;

KW Henoch-Schoenlein purpura; polyarteritis; multiple myeloma;

KW Wegener's granulomatosis; cryoglobulinemia;

KW Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome;

KW AIDS; oesophageal dysmotility; inflammatory bowel disease;

KW Burkitt's lymphoma; Epstein-Barr virus; mononucleosis; B cell tumour;

KW gene therapy; diagnosis.

XX Homo sapiens.

XX OS

XX Key

XX Domain

XX Region

FT Location/Qualifiers

FT 52..122 /label= "CRAF-b domain"

FT /note= "Claim 1"

FT 239..263 /note= "zinc finger 1 (zn binding to Cys-239,

Dd	123	MESSKMDSPGALQTNPLPKLHTRSAGTVPFVEQGGYKEKFKVKTVEEKYKCEKCHLVL	18
Qy	60	CNRKQTECGHRRCECMAALLSSSPKCTAQDESIIKDKYFNDCNCKREIILALQYCGNE	119
Dd	183	CSBRQEGCHRCESCMALLSSSSPKCTAQDESIVKDKYFNCKCKREIILALQYCGNE	24
Qy	120	GRCAQQLTLGLHLVHLKNECOFELPCLADCKEKLKRDLDHAEKACKREATCSHC	179
Dd	243	SRCAQQLTLGLHLVHLKNDCHFEELHCYVRDCKEKLKRDLDHAEKACKREATCSHC	30
Qy	180	KSGVPMLALQKHEDTDCPCVYVSCPHKCSVQTLIRSELSAHLSCEVNA PSTCSFRRGCV	23
Dd	303	KSGVPMLALQKHEDTDCPCVYVSCPHKCSVQTLIRSELSAHLSCEVNA PSTCSFRRGCV	36
Qy	240	FOGTNOQITAHASASAVQHVLNLEKMSLSLEKYSLLQNESVKKNSIOSLHNOICFPI	29
Dd	363	FOGTNOQITAHASASAVQHVLNLEKMSLSLEKYSLLQNESVKKNSIOSLHNOICFPI	42
Qy	300	EIEROKEMLRNNESKILHLQVRIYSQAEKLELDELRPRONWEPA DSMKSVEISLQNR	35
Dd	423	EIEROKEMLRNNESKILHLQVRIYSQAEKLELDELRPRONWEPA DSMKSVEISLQNR	48
Qy	360	VTELESVDKSASQAARNTGLLESQLSRHDDTL SYHDIRLADMDLRFOVLETSYNGVLII	41
Dd	483	VTELESVDKSASQAARNTGLLESQLSRHDDTL SYHDIRLADMDLRFOVLETSYNGVLII	54
Qy	420	KINDYRRRQEA VMGKTLSTLSQPPYTGFGYKMKCARVYLINGDGKGTHTLSLFFVIMRG	47
Dd	543	KINDYRRRQEA VMGKTLSTLSQPPYTGFGYKMKCARVYLINGDGKGTHTLSLFFVIMRG	60
Qy	480	EYVALLPWPFPKQKVTLMIMDQSSSRHILGDAFPKDPNSSFKKPGEENMIASGCPVFAQ	53
Dd	603	EYVALLPWPFPKQKVTLMIMDQSSSRHILGDAFPKDPNSSFKKPGEENMIASGCPVFAQ	66
Qy	540	TVLENGTYIKDDTIIFIKYIVDTSLDPP	56
Dd	663	TVLENGTYIKDDTIIFIKYIVDTSLDPP	69
RESULT 7			
AAW03146			
ID	AAW03146	standard; Protein; 568 AA.	
XX	AAW03146;		
AC			
XX			
DT	23-OCT-1996	(first entry)	
XX			
DE			
XX			
KW	LMP1 associated protein 1.		
KW	LMP1, LMP1 associated protein 1; latent infection membrane protein;		
KW	tumour necrosis factor receptor associated factor; TRAF;		
KW	signal transduction; TNF; TNFR; lymphoblast; tumorigenesis; AIDS;		
KW	Hodgkin's disease; Burkitt's lymphoma; nasopharyngeal carcinoma;		
KW	mononucleosis; Epstein-Barr virus; EBV; therapy.		
OS	Homo sapiens.		
XX			
XX	Key	Location/Qualifiers	
FT	Domain	245..568	
FT	Domain	/label= LMP1-Binding_domain	
FT	Domain	309..341	
FT	Domain	/label= Coiled_coil_domain	
FT	Domain	406..568	
FT	Domain	/label= Carboxy-terminal domain	
XX			
PN	MO9620723-A1.		
XX			
PD	11-JUL-1996.		
XX			
PF	28-DEC-1995;	95MO-US16980.	
XX			
PR	30-DEC-1994;	94US-0367540.	
XX			

PA (BGHM ) BRIGHAM & WOMENS HOSPITAL.  
 PA (REGC ) UNIV CALIFORNIA.  
 XX Birkenbach M, Kaye KM, Kleff E, Mosialos G, Vanarsdale T;  
 PI Ware C;  
 XX  
 DR WPI: 1996-333765/33.  
 N-PSDB: AAT31273.  
 XX  
 PT Compounds and methods for controlling TRAF-mediated signals - by  
 PT modulating interactions between Epstein Barr virus encoded proteins  
 PT LMP1, LMP1, TNF, TNFR to inhibit lymphoblast growth and  
 PT tumorigenesis.  
 XX  
 XX Claim 74: Page 58-60: 87pp: English.  
 XX  
 CC A novel human B-cell protein (AAW03146), termed LMP1 associated protein  
 CC 1 or LMP1, strongly associates with the cytoplasmic C-terminal domain  
 CC (AAW03148) of Epstein-Barr virus (EBV) latent infection membrane protein  
 CC 1 (LMP1), a domain that is stringently required for transformed cell  
 CC growth. LMP1 is related to murine tumour necrosis factor receptor  
 CC associated factor TRAF2. A related novel B-cell protein (AAW03147),  
 CC EB16, appears to be the human homologue of murine TRAF1. LMP1  
 CC polypeptides, esp. the LMP1 binding domain, coiled coil domain and  
 CC C-terminal domain can be used to inhibit LMP1-TRAF interaction.  
 CC Such polypeptides, which may be obtd. by recombinant means (see  
 CC also AAT31273) can be used to treat infection and control cell growth  
 CC or tumorigenesis associated with LMP1-encoding viruses, partic. EBV.  
 XX  
 XX Sequence 568 AA:  
 SO  
 Query Match 96.2%; Score 2880.5; DB 17; Length 568;  
 Best Local Similarity 96.0%; Pred. No. 1.5e-231;  
 Matches 545; Conservative 7; Mismatches 15; Indels 1; Gaps 1;

QY 1 MESSKKMDAAGTLPNPPLKLPDRGAGS-VLYPEOGGKKEFKVTVEDKCKEGRVYL 59  
 DB 1 MESSKKMDSPGALQTNPLKLTDRSAGTPVPEOGGKKEFKVTVEDKCKEGRVYL 60  
 QY 60 CNPKQTECGHRCFESCMALLSSSPKCTACQESIITKDKVFKNCKCKREITLALQYCRNE 119  
 DB 61 CSRKQTECGHRCFESCMALLSSSPKCTACQESIITKDKVFKNCKCKREITLALQYCRNE 120  
 QY 120 GRCAGELTGLHLVHLKNECFEELPCLRADCKEVLKRDLDHYEKKACKYREATCSHC 179  
 DB 121 SRGAEGLMGLHLVHLKNECFEELPCVRPDKCKEVLKRDLDHYEKKACKYREATCSHC 180  
 QY 180 KSGVPMIKLOKHEDTDCPCVAVGSCPHKCSVQTLRLSELNHLSECVNAPSTCSFKRYGCV 239  
 DB 181 KSGVPMIALQKHEDTDCPCVAVGSCPHKCSVQTLRLSELNHLSECVNAPSTCSFKRYGCV 240  
 QY 240 FQGTNOQIKAHSAASAVQVNLKEMNSLEKRVSLQNESVEKNKSISQSLHNOICSEFI 299  
 DB 241 FQGTNOQIKAHSAASAVQVNLKEMNSLEKRVSLQNESVEKNKSISQSLHNOICSEFI 300  
 QY 300 EIEBOKEMLNNSKILHLQRTVDSQAEKLELDKTRPRQWEEADSKSSVESLQNR 359  
 DB 301 EIEBOKEMLNNSKILHLQRTVDSQAEKLELDKTRPRQWEEADSKSSVESLQNR 360  
 QY 360 VTELESYDASAGAAARTGLLESQLSRHQDTLSVHDIRLADMDLRFQVETASYNGLVIL 419  
 DB 361 VTELESYDASAGAAARTGLLESQLSRHQDTLSVHDIRLADMDLRFQVETASYNGLVIL 420  
 QY 420 KIRDYKRRKQDAVNGKTLSTLYSOPFYTGFGYKMCARVYLNGDMGKGTHLSLFVYIMRG 479  
 DB 421 KIRDYKRRKQDAVNGKTLSTLYSOPFYTGFGYKMCARVYLNGDMGKGTHLSLFVYIMRG 480  
 QY 480 EYDALLPMPKQKVTLMILMOGSSRRHLGDAFKPDPNSSFKKPTGEMNIAASCPVFAQ 539  
 DB 481 EYDALLPMPKQKVTLMILMOGSSRRHLGDAFKPDPNSSFKKPTGEMNIAASCPVFAQ 540  
 QY 540 TVLENGTYIKDDTIFIKIVDTSDLPDP 567  
 DB 540 TVLENGTYIKDDTIFIKIVDTSDLPDP 567

DB 541 TVLENGTYIKDDTIFIKIVDTSDLPDP 568  
 RESULT 8  
 AAB67615  
 ID AAB67615 standard; Protein: 567 AA.  
 XX  
 AC AAB67615;  
 XX  
 DT 29-MAY-2001 (first entry)  
 XX  
 DE Amino acid sequence of human CD40 ligand.  
 XX  
 KM CD40 ligand; osteoblast cell death; apoptosis; bone loss;  
 KM osteoporosis; osteonecrosis; inflammatory arthritis; estrogen loss;  
 KM ovariectomy; hysterectomy; lupus nephritis; Takayasu's arteritis;  
 KM Wegener's granulomatosis; nephritis; myositis; scleroderma;  
 KM thrombocytopenia; asthma; lung disease; cancer.  
 XX  
 OS Homo sapiens.  
 XX  
 PN WO200116180-A2.  
 XX  
 PD 08-MAR-2001.  
 XX  
 PF 24-AUG-2000; 2000WO-US23276.  
 XX  
 PR 27-AUG-1999; 99US-0151250.  
 XX  
 PA (TEXA ) UNIV TEXAS SYSTEM.  
 XX  
 PI Ahuja SS, Bonewald LF;  
 XX  
 DR WPI: 2001-169007/17.  
 N-PSDB: AAF5540.  
 XX  
 PT CD40 agonist containing composition, used to reduce bone cell death or  
 PT apoptosis associated with osteoporosis, osteonecrosis and inflammatory  
 PT arthritis -  
 XX  
 PS Disclosure; Page 116-118; 118pp; English.  
 XX  
 CC The present sequence represents a human CD40 ligand. CD40 ligands are  
 CC used for reducing osteoblast cell death or apoptosis, and for treating  
 CC or preventing bone loss in animals, preferably humans, at risk of  
 CC osteonecrosis, inflammatory arthritis, post-menopausal osteoporosis,  
 CC estrogen loss due to ovariectomy, total hysterectomy, lupus nephritis,  
 CC Takayasu's arteritis, Wegener's granulomatosis, anti-glomerular basement  
 CC membrane nephritis, myositis, scleroderma, idiopathic autoimmune  
 CC thrombocytopenia, asthma, a chronic obstructive lung disease,  
 CC nephrotic/nephritic syndrome, or cancer. They may also be used to  
 CC treat or prevent bone loss in a subject undergoing, or scheduled for,  
 CC an organ or bone marrow transplant.  
 XX  
 SO Sequence 567 AA:  
 Query Match 95.5%; Score 2859; DB 22; Length 567;  
 Best Local Similarity 95.6%; Pred. No. 9.2e-230;  
 Matches 543; Conservative 7; Mismatches 16; Indels 2; Gaps 2;

QY 1 MESSKKMDAAGTLPNPPLKLPDRGAGS-VLYPEOGGKKEFKVTVEDKCKEGRVYL 59  
 DB 1 MESSKKMDSPGALQTNPLKLTDRSAGTPVPEOGGKKEFKVTVEDKCKEGRVYL 60  
 QY 60 CNPKQTECGHRCFESCMALLSSSPKCTACQESIITKDKVFKNCKCKREITLALQYCRNE 119  
 DB 61 CSRKQTECGHRCFESCMALLSSSPKCTACQESIITKDKVFKNCKCKREITLALQYCRNE 120  
 QY 120 GRCAGELTGLHLVHLKNECFEELPCLRADCKEVLKRDLDHYEKKACKYREATCSHC 179  
 DB 121 SRGAEGLMGLHLVHLKNECFEELPCVRPDKCKEVLKRDLDHYEKKACKYREATCSHC 180

```

OY 180 KQVPMIKLQKHEDTDCPCVVVSCPHKCSVQTLRLRSELSEHLSSECVNAPSTCSEFRKRGCV 239
    |||||
DB 180 KQVPMIALQKHEDTDCPCVVVSCPHKCSVQTLRLRSELSEHLSSECVNAPSTCSEFRKRGCV 239
OY 240 FQGTNOQIKAHHEASAVQHVNLKEMNSLEKRVSLDONESVEKKSISQSLHNOICSEFI 299
    |||||
DB 240 FQGTNOQIKAHHEASAVQHVNLKEMNSLEKRVSLDONESVEKKSISQSLHNOICSEFI 299
OY 300 EIEROKEMLRNNESEKILHLORVIDSQAELKELDKETIRPFROMWEADSMKSSVESLQNR 359
    |||||
DB 300 EIEROKEMLRNNESEKILHLORVIDSQAELKELDKETIRPFROMWEADSMKSSVESLQNR 359
OY 360 VTELESVDKSAQOAAANTGLESQSLSRHDQTLVSHDIRLADMDLRFQVLETAASYNGVLIM 419
    |||||
DB 360 VTELESVDKSAQOAAANTGLESQSLSRHDQTLVSHDIRLADMDLRFQVLETAASYNGVLIM 419
OY 420 KIRDYKRRKQEAVMGKTSLSYQPFYTGFGYKMCARYLNGDGKGTHTLSLFFVIMRG 479
    |||||
DB 420 KIRDYKRRKQEAVMGKTSLSYQPFYTGFGYKMCARYLNGDGKGTHTLSLFFVIMRG 479
OY 480 EYDALLPMPFKQVTLMLMDQSSRRHGDAPKPDNSSFPPKPTGENNIASGCPVFVAQ 539
    |||||
DB 480 EYDALLPMPFKQVTLMLMDQSSRRHGDAPKPDNSSFPPKPTGENNIASGCPVFVAQ 539
OY 540 TVLENGTYIKDDTIFIKVIYDTSIDLDP 567
    |||||
DB 540 TVLENGTYIKDDTIFIKVIYDTSIDLDP 567

```

## RESULT 9

AAK99259  
AAK99259 standard; Protein; 567 AA.

AAK99259;

06-DEC-1996 (first entry)

Full-length CD40 binding protein.

CD40 binding protein; CD40bp; immunosuppressive; immune disorder;  
antibody; therapy.

Homo sapiens.

Location/Qualifiers

49..97  
/label= RING\_finger\_domain

266..376  
/label= Coiled-coil\_domain

W09628568-A1.

19-SEP-1996.

24-MAY-1995; 95WO-US06623.

13-MAR-1995; 95US-0404832.

(UNMI ) UNIV MICHIGAN.

Dixit VM;

WPI; 1996-433838/43.

N-PSDB; AAT35251.

New isolated CD40 receptor binding protein - used to develop prods.  
for use as immunosuppressive drugs and to treat immune disorders

Example 5; Page 41-43; 65pp; English.

A novel human CD40 receptor binding protein (CD40bp) (AAK99259) has  
the ability to bind the cytoplasmic region of the CD40 receptor.  
Its amino acid sequence was deduced from a cDNA clone (AAI35251)

CC obtd. from a human B-cell cDNA expression library using a yeast  
CC two-hybrid system. Recombinant CD40bp can be produced in  
CC prokaryotic or eukaryotic host cells. It can be utilised in the  
CC purification of CD40 receptors or the detection of CD40 in cell or  
CC tissue samples. It is also useful as an immunogen for prodn. of  
CC anti-CD40bp antibodies, and can be used in an in vitro assay  
CC system to screen for immunosuppressant drugs.

Sequence 567 AA:

Query Match 95.28; Score 2849; DB 17; Length 567;

Best Local Similarity 95.4%; Pred. No. 6, 3e-229;

Matches 542; Conservative 7; Mismatch 17; Indels 2; Gaps 2;

```

OY 1 MESSKKMDAGTLOPNPLKLOPDRGAS-VLVPEGGYKEREKVKVEKYEKCRKRVY 59
    |||||
DB 1 MESSKKMDSPALQTNPLKLTDRSGTVEPVEGGYKEREKVKVEKYEKCRKCHLV 60
OY 60 CNPKQTEGHRFCESCAALSSSPKCTACQESIIKDKVFNCKCKRETLAQVCRNE 119
    |||||
DB 61 CSPKQTEGHRFCESCAALSSSPKCTACQESYKDKVFNCKCKRETLAQVCRNE 120
OY 120 GRGCAEQLTGLHVLHLKNCQFEBELPCLRADCKEYLRKDLRDHYEKACKREATCSHC 179
    |||||
DB 121 SRGCAEQLMLGH-LVHLKNCQHFEBELPCLRADCKEYLRKDLRDHYEKACKREATCSHC 179
OY 180 KQVPMIKLQKHEDTDCPCVVVSCPHKCSVQTLRLRSELSEHLSSECVNAPSTCSEFRKRGCV 239
    |||||
DB 180 KQVPMIALQKHEDTDCPCVVVSCPHKCSVQTLRLRSELSEHLSSECVNAPSTCSEFRKRGCV 239
OY 240 FQGTNOQIKAHHEASAVQHVNLKEMNSLEKRVSLDONESVEKKSISQSLHNOICSEFI 299
    |||||
DB 240 FQGTNOQIKAHHEASAVQHVNLKEMNSLEKRVSLDONESVEKKSISQSLHNOICSEFI 299
OY 300 EIEROKEMLRNNESEKILHLORVIDSQAELKELDKETIRPFROMWEADSMKSSVESLQNR 359
    |||||
DB 300 EIEROKEMLRNNESEKILHLORVIDSQAELKELDKETIRPFROMWEADSMKSSVESLQNR 359
OY 360 VTELESVDKSAQOAAANTGLESQSLSRHDQTLVSHDIRLADMDLRFQVLETAASYNGVLIM 419
    |||||
DB 360 VTELESVDKSAQOAAANTGLESQSLSRHDQTLVSHDIRLADMDLRFQVLETAASYNGVLIM 419
OY 420 KIRDYKRRKQEAVMGKTSLSYQPFYTGFGYKMCARYLNGDGKGTHTLSLFFVIMRG 479
    |||||
DB 420 KIRDYKRRKQEAVMGKTSLSYQPFYTGFGYKMCARYLNGDGKGTHTLSLFFVIMRG 479
OY 480 EYDALLPMPFKQVTLMLMDQSSRRHGDAPKPDNSSFPPKPTGENNIASGCPVFVAQ 539
    |||||
DB 480 EYDALLPMPFKQVTLMLMDQSSRRHGDAPKPDNSSFPPKPTGENNIASGCPVFVAQ 539
OY 540 TVLENGTYIKDDTIFIKVIYDTSIDLDP 567
    |||||
DB 540 TVLENGTYIKDDTIFIKVIYDTSIDLDP 567

```

## RESULT 10

AAW27432  
AAW27432 standard; Protein; 543 AA.

AAW27432;

27-MAR-1998 (first entry)

Human CRAFI isoform p55del9.

CD40 receptor associated factor 1; CRAFI-a; TRAF-3; p55; human;  
CD40 mediated intracellular signalling; organ rejection; allergy;  
may fever; autoimmune disease; systemic lupus erythematosus;  
rheumatoid arthritis; myasthenia gravis; Graves' disease;  
idiopathic thrombocytopenia purpura; haemolytic anaemia;  
diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;  
apoptosis; Rietter's syndrome; spondyloarthritis; Lyme disease; HIV;  
syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis;



KW pneumoconiosis; adult respiratory distress syndrome; pneumonitis;  
 KW asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis;  
 KW atherosclerosis; multiple sclerosis; glomerulonephritis;  
 KW glomerulosclerosis; glomerulopathy; kidney disease; nephropathy;  
 KW endocarditis; leprosy; malaria; Goodpasture's disease;  
 KW Henoch-Schoenlein purpura; polyarteritis; multiple myeloma;  
 KW Wegener's granulomatosis; cryoglobulinemia;  
 KW Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome;  
 KW AIDS; oesophageal dysmotility; inflammatory bowel disease;  
 KW bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;  
 KW Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;  
 KW gene therapy; diagnosis.  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT 117..141  
 FT Region /note= "zinc finger 1 (Zn binding to Cys-117,  
 FT Cys-124, His-136 and Cys-141)"  
 FT Region 148..170  
 FT /note= "zinc finger 2 (zinc binding to Cys-148,  
 FT Cys-153, His-165 and Cys-170"  
 FT Region 177..197  
 FT /note= "zinc finger 3 (Zn binding to Cys-177,  
 FT Cys-180, His-192 and Cys-197"  
 FT MO9734473-A1.  
 XX  
 PD 25-SEP-1997.  
 XX  
 PF 21-MAR-1997; 97MO-US05076.  
 XX  
 PR 18-SEP-1996; 96US-0026584.  
 PR 21-MAR-1996; 96US-0013820.  
 PR 01-MAY-1996; 96US-0016626.  
 PR 01-MAY-1996; 96US-0016659.  
 XX  
 PA (UYCO ) UNIV COLUMBIA NEW YORK.  
 XX  
 PI Cleary AM, Frank DM, Lederman S;  
 XX WPI: 1997-47907/44.  
 DR N-PSDB: AAT90123.  
 XX  
 PT Protein comprising CRAF1-b domain capable of inhibiting CD40  
 PT mediated cell activation - useful to treat conditions characterised  
 PT by aberrant or unwanted level of CD40 mediated intracellular  
 PT signalling  
 XX  
 PS Example 1: Fig 1D-O; 158bp; English.  
 XX  
 CC This polypeptide comprises a CRAF1 (TRAF-3) isoform designated  
 CC p55del9. It is encoded by exons 4-8 and 10-13 of the human CRAF  
 CC gene (see AAT90123) and arises by alternative splicing of the  
 CC sequence for CRAF1-a (see AAW27431), a signalling protein that  
 CC interacts with the cytoplasmic tail of B cell surface molecule CD40  
 CC and which mediates a variety of T-dependent effects on B cell  
 CC activation and differentiation. A higher mol.wt. CRAF1, designated  
 CC CRAF1b (see AAW27428), has also been identified, as well as isoforms  
 CC p5 (see AAW27429), p15 (see AAW27430) and variants of CRAF-1a and  
 CC CRAF-b (see AAW27432-37) that comprise different combinations of 5  
 CC zinc fingers. CRAF1 peptides, comprising from 0-4 zinc finger  
 CC domains, and nucleic acids encoding them, can be used to inhibit  
 CC CD40 ligand activation of cells that express CD40 on their surface,  
 CC particularly by introducing a nucleic acid molecule into the cells,  
 CC and used to treat conditions characterised by an aberrant or  
 CC unwanted level of CD40 mediated intracellular signalling, such as  
 CC organ rejection, or a CD40 dependent immune response in a subject  
 CC receiving gene therapy. The condition may be an allergic response  
 CC or an autoimmune response, or may be dependent on CD40 ligand-  
 CC induced activation of epithelial cells, an inflammatory kidney  
 CC disease, a smooth muscle cell-dependent disease, or a condition  
 CC associated with Epstein-Barr virus.

XX  
 SQ Sequence 543 AA;  
 Query Match 91.0%; Score 2726; DB 18; Length 543;  
 Best Local Similarity 91.7%; Pred. No. 1, 1e-218;  
 Matches 521; Conservative 7; Mismatches 14; Indels 26; Gaps 2;  
 QY 1 MESSKMDAAGTQPPPLKLPDRGAGS-VLVEDEGGYKKEFKVTVEDKYCEKCRVL 59  
 DB 1 MESSKMDSPGALQTPPLKLTDRSAGTPVEPEGGYKKEFKVTVEDKYCEKCRVL 60  
 QY 60 CNPKTECGHRCFESCMALLSSSPKTCACOSITIKDKVDFDNCCKREITLQYCRNE 119  
 DB 61 CSPKQTECGHRCFESCMALLSSSPKTCACOSITIKDKVDFDNCCKREITLQYCRNE 120  
 QY 120 GRGCAQDLTLGLHLVHLKNECFEELPCRLADCEKEVLRKDRDHYEKACKYREATCSHC 179  
 DB 121 SRGCAQDLTLGLHLVHLKNDCHFEELPCVPRDCEKEVLRKDRDHYEKACKYREATCSHC 180  
 QY 180 KSGVPMIKLQKHEDTCCPCVVVSCPHKCSVQITLNSLSAHLSECVNAPSTCSFKRYGCV 239  
 DB 181 KSGVPMIAIQKHEDTCCPCVVVSCPHKCSVQITLNSLSAHLSECVNAPSTCSFKRYGCV 217  
 QY 240 FQGTNOQIRAHESASAVOHVNLKEMSNLEKKVSLQNESVEKKNSTQSLNQCSEFI 299  
 DB 218 --GTNOQIRAHESASAVOHVNLKEMSNLEKKVSLQNESVEKKNSTQSLNQCSEFI 275  
 QY 300 EIEROKEMLRNNESKILHLQRYIDSOAEKLEIKELRPFRRQNWBERADSKSSVESLQNR 359  
 DB 276 EIEROKEMLRNNESKILHLQRYIDSOAEKLEIKELRPFRRQNWBERADSKSSVESLQNR 335  
 QY 360 VTLEESVDKSAGCAANTGLLESQLSRHQDTLSVHDRLADMDLRQVLETASYNCVLTW 419  
 DB 336 VTLEESVDKSAGCAANTGLLESQLSRHQDMLSVHDRLADMDLRQVLETASYNCVLTW 395  
 QY 420 KIRDYKRRKQEAVMGKTLSTYSOPFTYGYGFKMCARVYLVNDGSGKGTHTLSPFYIMNG 479  
 DB 396 KIRDYKRRKQEAVMGKTLSTYSOPFTYGYGFKMCARVYLVNDGSGKGTHTLSPFYIMNG 455  
 QY 480 EYDALLPMPFKOKVTLMLDQSSRRHLGDAEKPDPNSSFFKPTGEMNIASGCPVFAO 539  
 DB 456 EYDALLPMPFKOKVTLMLDQSSRRHLGDAEKPDPNSSFFKPTGEMNIASGCPVFAO 515  
 QY 540 TVLENGTYIKDITIFIKYIVVDTSDLPDP 567  
 DB 516 TVLENGTYIKDITIFIKYIVVDTSDLPDP 543  
 RESULT 11  
 AAW27433  
 ID AAW27433 standard; Protein; 665 AA.  
 AC AAW27433;  
 XX  
 DT 27-MAR-1998 (first entry)  
 XX  
 DE Human CRAF1-b isoform p70del9.  
 XX  
 KW CD40 receptor associated factor 1; CRAF1-b; TRAF-3; p70; human;  
 KW CD40 mediated intracellular signalling; organ rejection; allergy;  
 KW hay fever; autoimmune disease; systemic lupus erythematosus;  
 KW rheumatoid arthritis; myasthenia gravis; Graves' disease;  
 KW idiopathic thrombocytopenia purpura; haemolytic anaemia;  
 KW diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;  
 KW aplasia; Kletter's syndrome; spondylarthritis; Lyme disease; HIV;  
 KW syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis;  
 KW pneumoconiosis; adult respiratory distress syndrome; pneumonitis;  
 KW asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis;  
 KW atherosclerosis; multiple sclerosis; glomerulonephritis;  
 KW glomerulosclerosis; glomerulopathy; kidney disease; nephropathy;  
 KW endocarditis; leprosy; malaria; Goodpasture's disease;  
 KW Henoch-Schoenlein purpura; polyarteritis; multiple myeloma;  
 KW Wegener's granulomatosis; cryoglobulinemia;

KW Waldenstrom's macroglobulinaemia; amyloidosis; Sjogren's syndrome;  
 KW AIDS; oesophageal dysmotility; inflammatory bowel disease;  
 KW bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;  
 KW Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;  
 KW gene therapy; diagnosis.  
 XX  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Domain 52..122  
 FT /label= "CRAF-b domain  
 FT /note= "Clatm 1"  
 FT Region 239..263  
 FT /note= "zinc finger 1 (zn binding to Cys-239,  
 FT Cys-246, His-258 and Cys-263)"  
 FT Region 270..292  
 FT /note= "zinc finger 2 (zinc binding to Cys-270,  
 FT Cys-275, His-287 and Cys-292 "  
 FT Region 299..319  
 FT /note= "zinc finger 3 (zn binding to Cys-299,  
 FT Cys-302, His-314 and Cys-319"  
 FT Binding-site 16..19  
 FT /note= "putative SH3 binding motif"  
 FT Binding-site 44..47  
 FT /note= "putative SH3 binding motif"  
 FT Binding-site 103..110  
 FT /note= "putative SH3 binding motif"  
 XX  
 XX WO9734473-A1.  
 XX  
 PD 25-SEP-1997.  
 XX  
 PF 21-MAR-1997; 97MO-US05076.  
 XX  
 PR 18-SEP-1996; 96US-0026584.  
 PR 21-MAR-1996; 96US-0013820.  
 PR 01-MAY-1996; 96US-0016626.  
 PR 01-MAY-1996; 96US-0016659.  
 XX  
 PA (UYCO ) UNIV COLUMBIA NEW YORK.  
 XX  
 PI Cleary AM, Frank DM, Lederman S;  
 DR WPI; 1997-47907/44.  
 DR N-PSDB; AAT90123.  
 XX  
 PT Protein comprising CRAF1-b domain capable of inhibiting CD40  
 PT mediated cell activation - useful to treat conditions characterised  
 PT by aberrant or unwanted level of CD40 mediated intracellular  
 PT signalling  
 XX  
 PS Example 1; Fig 1A-O; 158pp; English.  
 CC This polypeptide comprises a CRAF1 (TRAF-3) protein designated  
 CC p70del19 that is encoded by exons 1-2, 4-8 and 10-13 of the human  
 CC CRAF gene (see AAT90123). Different isoforms (AAW27428-37) of CRAF1  
 CC have been identified that arise from alternative splicing. CRAF1  
 CC peptides comprising from 0-4 zinc finger domains, and nucleic acids  
 CC encoding them, can be used to inhibit CD40 ligand activation of  
 CC cells that express CD40 on their surface, particularly by  
 CC introducing the nucleic acid molecule into the cells, and used to  
 CC treat conditions characterised by an aberrant or unwanted level of  
 CC CD40 mediated intracellular signalling, such as organ rejection, or  
 CC a CD40 dependent immune response in a subject receiving gene  
 CC therapy. The condition may be an allergic response or an  
 CC autoimmune response, or may be dependent on CD40 ligand-induced  
 CC activation of epithelial cells, an inflammatory kidney disease, a  
 CC smooth muscle cell-dependent disease, or a condition associated  
 CC with Epstein-Barr virus.  
 XX  
 S0 Sequence 665 AA;  
 Query Match 91.0%; Score 2726; DB 18; Length 665;

Best Local Similarity 91.7%; Pred. No. 1,5e-218;  
 Matches 521; Conservative 7; Mismatches 14; Indels 26; Gaps 2;  
 QY 1 MESSKMDAGTLQNPPLKLPDRGAS-VLVBGGYKKEFYVEDKCKCKRYVL 59  
 DB 123 MESSKMDSPCALQTNPLKLTDRSAGTPVFVEGGGKKEFYVEDKCKCKRYVL 182  
 QY 60 CNPKTEGCHPRCESCMALLSSSSPKTACQESTIRKVKDNCKREIILALQVCRNE 119  
 DB 183 CSPKTEGCHPRCESCMALLSSSSPKTACQESTIRKVKDNCKREIILALQVCRNE 242  
 QY 120 GRGCAEQLTLGHLVHLNNECOFELPCLRADCKEYLRKDLRPHVEKACKYREATCSHC 179  
 DB 243 SRGCAEQLTLGHLVHLNNDCHFELPCVRPDKCKEYLRKDLRPHVEKACKYREATCSHC 302  
 QY 180 KQVPMIKLQKHEPDPCVYVSCCHKKSQVOTLRLSELSAHLSECVNAPRCSFKRYGCV 239  
 DB 303 KQVPMIALQKHEPDPCVYVSCPHKCSQVOTLRLSE----- 339  
 QY 240 FGSTNOQIKAHFASSAVOHVNLKEMSNSLEKVSLLQNESVEKNKSIOSLHNOIGSFEL 299  
 DB 340 -GTMOQIKAHFASSAVOHVNLKEMSNSLEKVSLLQNESVEKNKSIOSLHNOIGSFEL 397  
 QY 300 EIERQKEMLRNNESEKILHLQRYIDSQAEKLELKEIRPFQONNEADSMKSYSVESIQNR 359  
 DB 398 EIERQKEMLRNNESEKILHLQRYIDSQAEKLELKEIRPFQONNEADSMKSYSVESIQNR 457  
 QY 360 VTELESVDKSAQAARNRNGLESQLSRRDQTLVSVDIFLAMDILRFVLETAASNGVLIW 419  
 DB 458 VTELESVDKSAQAARNRNGLESQLSRRDQTLVSVDIFLAMDILRFVLETAASNGVLIW 517  
 QY 420 KIRDYKRRKQEVAMGKTLSTVSOPTTGYFGYKMCARYLNGDGGKCTHLSLFEVIMRG 479  
 DB 518 KIRDYKRRKQEVAMGKTLSTVSOPTTGYFGYKMCARYLNGDGGKCTHLSLFEVIMRG 577  
 QY 480 EYDALLPWFQKQVTLMDGSSRRHLGDAFKPPNNSRRKPPGEMNITASGCPVFAAQ 539  
 DB 578 EYDALLPWFQKQVTLMDGSSRRHLGDAFKPPNNSRRKPPGEMNITASGCPVFAAQ 637  
 QY 540 TVLENGTYIKDDTIFIKVIVDFSDLPDP 567  
 DB 638 TVLENGTYIKDDTIFIKVIVDFSDLPDP 665  
 RESULT 12  
 AAR98833  
 ID AAR98833 standard; Protein; 543 AA.  
 XX  
 AC AAR98833;  
 XX  
 DT 23-MAR-1998 (first entry)  
 XX  
 DE CD40 associated protein (CAP)-1.  
 XX  
 KW CD40 associated protein; CAP; agonist; antagonist; gene therapy;  
 KW cell proliferation; treatment; cancer; autoimmune disease.  
 OS Homo sapiens.  
 XX  
 FH Key Location/Qualifiers  
 FT Domain 53..91  
 FT /note= "RING finger domain"  
 FT Domain 117..141  
 FT /note= "zinc finger domain 1"  
 FT Domain 148..170  
 FT /note= "zinc finger domain 2"  
 FT Domain 177..197  
 FT /note= "zinc finger domain 3"  
 FT Domain 384..540  
 FT /note= "TRAF domain"  
 XX  
 PN WO9616665-A1.  
 XX

PD 06-JUN-1996.  
 XX  
 PF 04-DEC-1995; 95WO-US15695.  
 XX  
 PR 02-DEC-1994; 94US-0349357.  
 XX  
 PA (LJOL-) LA JOLLA CANCER RES FOUND.  
 XX  
 PI Reed JC, Sato T;  
 XX WPI: 1996-286818/29.  
 DR N-PSDB; AAT30773.  
 XX  
 PT New CD40 associated protein, agonists and antagonists - used to  
 PT modulate cell proliferation, immune response, apoptosis etc., e.g.  
 PT for treating cancer or autoimmune disease  
 PS  
 PS Claim 3; Fig 1; 94pp; English.  
 XX  
 XX This is a CD40 associated protein (CAP)-1. This CAP is a protein that  
 CC specifically binds to CD40, a cell surface receptor involved in  
 CC apoptosis. Agonists and antagonists of CAP can increase or decrease  
 CC the level of CAP expression in a cell and can thereby modulate the  
 CC function of the cell. Such compounds can be used to treat cancer,  
 CC autoimmune diseases like asthma, hay fever, rheumatoid arthritis and  
 CC immunodeficiency diseases and neurodegeneration. Antibodies that bind  
 CC specifically to CAP can be used to assay CAP, to detect pathologically  
 CC altered levels. The encoding nucleic acid can be used to identify  
 CC related genes and to express CAP for gene therapy.  
 XX  
 XX Sequence 543 AA;  
 SQ  
 Query Match 90.5%; Score 2710; DB 17; Length 543;  
 Best Local Similarity 91.4%; Pred. No. 2,4e-217;  
 Matches 519; Conservative 7; Mismatches 16; Indels 26; Gaps 2;

DB 516 TVLENGTYIKDDTFIKIVDTSDLPDP 543  
 RESULT 13  
 AAM27436  
 ID AAM27436 standard; Protein; 516 AA.  
 XX  
 AC AAM27436;  
 XX  
 XX 27-MAR-1998 (first entry)  
 DT  
 XX Human CRAF1-b isoform p70del8,9.  
 DE  
 XX  
 XX CD40 receptor associated factor 1; CRAF1-b; TRAF-3; p70; human;  
 KW CD40 mediated intracellular signalling; organ rejection; allergy;  
 KW hay fever; autoimmune disease; systemic lupus erythematosus;  
 KW rheumatoid arthritis; myasthenia gravis; Graves' disease;  
 KW idiopathic thrombocytopenia purpura; haemolytic anaemia;  
 KW diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;  
 KW apoptosis; Rieters's syndrome; spondylarthritis; Lyme disease; HIV;  
 KW syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis;  
 KW pneumoconiosis; adult respiratory distress syndrome; pneumonia;  
 KW asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis;  
 KW atherosclerosis; multiple sclerosis; glomerulonephritis;  
 KW glomerulosclerosis; glomerulopathy; kidney disease; nephropathy;  
 KW endocarditis; leprosy; malaria; Goodpasture's disease;  
 KW Henoch-Schoenlein purpura; polyarteritis; multiple myeloma;  
 KW Wegener's granulomatosis; cryoglobulinemia;  
 KW Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome;  
 KW AIDS; oesophageal dysmotility; inflammatory bowel disease;  
 KW bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;  
 KW Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;  
 KW gene therapy; diagnosis.  
 KW  
 XX Homo sapiens.  
 OS  
 FH Key Location/Qualifiers  
 FT Domain 52..122  
 FT /label= "CRAF-b-domain  
 FT /note= "Claim 1"  
 FT Region 239..263  
 FT /note= "zinc finger 1 (zn binding to Cys-239,  
 FT Cys-246, His-258 and Cys-263)"  
 FT Region 270..292  
 FT /note= "zinc finger 2 (zinc binding to Cys-270,  
 FT Cys-275, His-287 and Cys-292 "  
 FT Binding-site 16..19  
 FT /note= "putative SH3 binding motif"  
 FT Binding-site 44..47  
 FT /note= "putative SH3 binding motif"  
 FT Binding-site 103..110  
 FT /note= "putative SH3 binding motif"  
 XX  
 PD MO9734473-A1.  
 XX 25-SEP-1997.  
 XX  
 XX 21-MAR-1997; 97WO-US05076.  
 XX  
 XX 18-SEP-1996; 96US-0026584.  
 PR 21-MAR-1996; 96US-0013820.  
 PR 01-MAY-1996; 96US-0016626.  
 PR 01-MAY-1996; 96US-0016659.  
 XX  
 PA (UYCO ) UNIV COLUMBIA NEW YORK.  
 PI Cleary AM, Frank DM, Lederman S;  
 XX WPI: 1997-479907/44.  
 DR N-PSDB; AAT90123.  
 DR Protein comprising CRAF1-b domain capable of inhibiting CD40  
 XX

PT mediated cell activation - useful to treat conditions characterised  
PT by aberrant or unwanted level of CD40 mediated intracellular  
PT signalling

XX Example 1; Fig 1A-O; 158bp; English.

XX This polypeptide comprises a CRAFI (TRAF-3) protein designated  
CC p70del8.9 that is encoded by exons 1-2, 4-7 and 10-13 of the human  
CC CRAFI gene (see AAM90123). Different isoforms (AAM72428-37) of CRAFI  
CC have been identified that arise from alternative splicing. CRAFI  
CC peptides comprising from 0-4 zinc finger domains, and nucleic acids  
CC encoding them, can be used to inhibit CD40 ligand activation of  
CC cells that express CD40 on their surface, particularly by  
CC introducing the nucleic acid molecule into the cells, and used to  
CC treat conditions characterised by an aberrant or unwanted level of  
CC CD40 mediated intracellular signalling, such as organ rejection, or  
CC a CD40 dependent immune response in a subject receiving gene  
CC therapy. The condition may be an allergic response or an  
CC autoimmune response, or may be dependent on CD40 ligand-induced  
CC activation of epithelial cells, an inflammatory kidney disease, a  
CC smooth muscle cell-dependent disease, or a condition associated  
CC with Epstein-Barr virus.

XX Sequence 516 AA:

Query Match 85.5%; Score 2558.5; DB 18; Length 516;  
Best Local Similarity 87.0%; Pred. No. 9.7e-205;  
Matches 494; Conservative 7; Mismatches 14; Indels 53; Gaps 2;

QY 1 MESSKKMDAAGTLQNPPLKLPDRGAGS-VLVEQGGYKFKVTEDEKCKEGRVLI 59  
DB 1 MESSKKMDSPGALQTNPLKLTDRSAGTPFVEQGGYKFKVTEDEKCKEGRVLI 60  
QY 60 CNKQTECGHRCFSCCAALSSSPKCTACQESIHKDYKFNCKCKRETLAQVYCRNE 119  
DB 61 CSPQTECGHRCFSCCAALSSSPKCTACQESIHKDYKFNCKCKRETLAQVYCRNE 120  
QY 120 GRGCAEOLTLGHLVHLKNEQFEELPCLRADCKEYKRLDRHKEAKCYREATCSHC 179  
DB 121 SRGCAEOLTLGHLVHLKNEQFEELPCLRADCKEYKRLDRHKEAKCYREATCSHC 180  
QY 180 KSOVPMATLQKHEDTPCVCVYVSCPHKCSVQTLRSELSAHLSCEVNAIDSTCSFKRYGCV 239  
DB 181 KSOVPMATL----- 189  
QY 240 FQGNQOIKAHKSSAAYOHVNLKEMNSLEKKVSLQNSVEKNSIOSLHQICSPFI 299  
DB 190 -QGTNODIKAHKSSAAYOHVNLKEMNSLEKKVSLQNSVEKNSIOSLHQICSPFI 248  
QY 300 EIEROKEMLNNSKILHQRVIDSOAEKLELDEKEIRPFQRMWERADSKSSVESLQNR 359  
DB 249 EIEROKEMLNNSKILHQRVIDSOAEKLELDEKEIRPFQRMWERADSKSSVESLQNR 308  
QY 360 VTELESYDKSAGAAARNTGLLESQLSRHQDTLSVHDIRLADMDLRPOVLETASYNGVLIW 419  
DB 309 VTELESYDKSAGAAARNTGLLESQLSRHQDTLSVHDIRLADMDLRPOVLETASYNGVLIW 368  
QY 420 KIRDYKRRKQEAVMGKTLISYQPFYTGFGYKMCARVYLNGGCMKGTHLSLFEVIMG 479  
DB 369 KIRDYKRRKQEAVMGKTLISYQPFYTGFGYKMCARVYLNGGCMKGTHLSLFEVIMG 428  
QY 480 EYDALLPMPFKQVTLMLMOGSSRRHLGDAFKPDNNSSEFKKPTGEMNIASGCPVFAVO 539  
DB 429 EYDALLPMPFKQVTLMLMOGSSRRHLGDAFKPDNNSSEFKKPTGEMNIASGCPVFAVO 488  
QY 540 TVLENGTYIKDPTIFIKVIVDTSLDLP 567  
DB 489 TVLENGTYIKDPTIFIKVIVDTSLDLP 516

RESULT 14

AAM72437  
ID AAM72437 standard; Protein; 638 AA.

XX AAM72437;  
AC 27-MAR-1998 (first entry)  
XX  
XX  
DE Human CRAFI-b isoform p70del8.9.

KW CD40 receptor associated factor 1; CRAFI-b; TRAF-3; p70; human;  
KW CD40 mediated intracellular signalling; organ rejection; allergy;  
KW hay fever; autoimmune disease; systemic lupus erythematosus;  
KW rheumatoid arthritis; myasthenia gravis; Graves' disease;  
KW idiopathic thrombocytopenia purpura; haemolytic anaemia;  
KW diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;  
KW apoptosis; Rietter's syndrome; spondyloarthritis; Lyme disease; HIV;  
KW syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis;  
KW pneumoconiosis; adult respiratory distress syndrome; pneumonitis;  
KW asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis;  
KW atherosclerosis; multiple sclerosis; glomerulonephritis;  
KW glomerulosclerosis; glomerulopathy; kidney disease; nephropathy;  
KW endocarditis; leprosy; malaria; Goodpasture's disease;  
KW Henoch-Schoenlein purpura; polyarteritis; multiple myeloma;  
KW Wegener's granulomatosis; cryoglobulinemia;  
KW Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome;  
KW AIDS; oesophageal dysmotility; inflammatory bowel disease;  
KW bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;  
KW Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;  
KW gene therapy; diagnosis.

OS Homo sapiens.

XX Key Location/Qualifiers  
XX FH 52..122  
XX Domain /label= "CRAFI-b domain"  
XX FT /note= "Claim 1"

XX Region 239..263  
XX FT /note= "zinc finger 1 (2n binding to Cys-239,  
XX Cys-246, His-258 and Cys-263)."

XX Region 270..292  
XX FT /note= "zinc finger 2 (zinc binding to Cys-270,  
XX Cys-275, His-287 and Cys-292"

XX Binding-site 16..19  
XX FT /note= "putative SH3 binding motif"

XX Binding-site 44..47  
XX FT /note= "putative SH3 binding motif"

XX Binding-site 103..110  
XX FT /note= "putative SH3 binding motif"

XX WO9734473-A1.

XX 25-SEP-1997.

XX 21-MAR-1997; 97WO-US05076.

XX 18-SEP-1996; 96US-0026584.

XX 21-MAR-1996; 96US-0013820.

XX 01-MAY-1996; 96US-0016626.

XX 01-MAY-1996; 96US-0016659.

XX (UYCO ) UNIV COLUMBIA NEW YORK.

XX Cleary AM, Frank DM, Lederman S;

XX WPI; 1997-479907/44.

XX N-PSDB; AAT90123.

XX Protein comprising CRAFI-b domain capable of inhibiting CD40  
XX mediated cell activation - useful to treat conditions characterised  
XX by aberrant or unwanted level of CD40 mediated intracellular  
XX signalling

XX Example 1; Fig 1A-O; 158bp; English.

XX This polypeptide comprises a CRAFI (TRAF-3) protein designated

KW	CD40 receptor associated factor 1; CRAF- $\alpha$ ; TRAF-3; p5; human;
KV	CD40 mediated intracellular signalling; organ rejection; allergy;
KM	hay fever; autoimmune disease; systemic lupus erythematosus;
KW	rheumatoid arthritis; myasthenia gravis; Graves' disease;
KW	idiopathic thrombocytopenia purpura; haemolytic anaemia;
KW	diabetes mellitus; psoriasis; hyper immunoglobulin E syndrome;
KW	apoptosis; Reiter's syndrome; spondylarthritis; Lyme disease; HIV
KW	syphilis; tuberculosis; arthritis; scleroderma; pulmonary fibrosis
KW	pneumoconiosis; adult respiratory distress syndrome; pneumonitis;
KW	asbestosis; silicosis; Farmer's lung; hepatitis; cirrhosis;
KW	glomerulosclerosis; multiple sclerosis; glomerulonephritis;
KW	atherosclerosis; glomerulopathy; kidney disease; nephropathy;
KW	endocarditis; leprosy; malaria; Goodpasture's disease;
KW	Henoch-Schoenlein purpura; polyarteritis; multiple myeloma;
KW	Wegener's granulomatosis; cryoglobulinemia;
KW	Waldenstrom's macroglobulinemia; amyloidosis; Sjogren's syndrome;
KW	AIDS; oesophageal dysmotility; inflammatory bowel disease;
KW	bladder disease; Epstein-Barr virus; mononucleosis; B cell tumour;
KW	Burkitt's lymphoma; nasopharyngeal carcinoma; pneumonia;
KW	gene therapy; diagnosis.
OS	
XX	Homio sapiens.
FH	
FT	Key
FT	Location/Qualifiers
FT	Region
FT	/note-"zinc finger 1 (zn binding to Cys-117,
FT	117..141
FT	Cys-124, His-136 and Cys-141)"
FT	Region
FT	/note-"zinc finger 2 (zinc binding to Cys-148,
FT	148..170
FT	Cys-153, His-165 and Cys-170"
FT	Region
FT	/note-"zinc finger 3 (zn binding to Cys-177,
FT	177..197
FT	Cys-180, His-192 and Cys-197"
XX	
PN	M09734473-A1.
XX	
PD	25-SEP-1997.
XX	
PE	21-MAR-1997; 97MO-US05076.
XX	
PR	18-SEP-1996; 96US-0026584.
PR	21-MAR-1996; 96US-0013820.
PR	01-MAY-1996; 96US-0016626.
PR	01-MAY-1996; 96US-0016659.
XX	
PA	(UYCO ) UNIV COLUMBIA NEW YORK.
PI	
PI	Cleary AM, Frank DM, Lederman S;
DR	WPI; 1997-4/7907/44.
DR	N-PSDB; AAT90123.
XX	
PT	Protein comprising CRAF1-b domain capable of inhibiting CD40
PT	mediated cell activation - useful to treat conditions characterised
PT	by aberrant or unwanted level of CD40 mediated intracellular
PT	signalling
XX	
PS	Example 1; Fig ID-O; 158bp; English.
XX	
CC	This polypeptide comprises a CRAF1 (TRAF-3) isoform designated
CC	p55del $\Delta$ ,10. It is encoded by exons 4-8 and 11-13 of the human
CC	CRAF gene (see AAT90123) and arises by alternative splicing of the
CC	sequence for CRAF1-a (see AAW27431), a signalling protein that
CC	interacts with the cytoplasmic tail of B cell surface molecule
CC	CD40 and which mediates a variety of T-dependent effects on B cell
CC	activation and differentiation. A higher mol.wt. CRAF1, designated
CC	CRAFIb (see AAW27428), has also been identified, as well as isoform
CC	p5 (see AAW27429), p15 (see AAW27430) and variants of CRAF-1a and
CC	CRAF-b (see AAW27432-37) that comprise different combinations of 5
CC	zinc fingers. CRAF1 peptides, comprising from 0-4 zinc finger
CC	domains, and nucleic acids encoding them, can be used to inhibit
CC	CD40 ligand activation of cells that express CD40 on their surface,
CC	particularly by introducing a nucleic acid molecule, into the cell.

CC and used to treat conditions characterised by an aberrant or  
CC unwanted level of CD40 mediated intracellular signalling, such as  
CC organ rejection, or a CD40 dependent immune response in a subject  
CC receiving gene therapy. The condition may be an allergic response  
CC or an autoimmune response, or may be dependent on CD40 ligand-  
CC induced activation of epithelial cells, an inflammatory kidney  
CC disease, a smooth muscle cell-dependent disease, or a condition  
CC associated with Epstein-Barr virus.

XX Sequence 512 AA;

SQ

Query Match 85.3%; Score 2552.5; DB 18; Length 512;

Best Local Similarity 86.3%; Pred. No. 3e-204;

Matches 490; Conservative 7; Mismatches 14; Indels 57; Gaps 2;

QY 1 MESSKKMDAAGTLQPNPPLKLPDRGAGS-VLVPDGGYKKEFYKTVEDKYKCEKRLVL 59  
DB 1 MESSKKMDSPGALQTNPPKLHTDRSAGTPVFPDGGYKKEFYKTVEDKYKCEKRLVL 60  
QY 60 CNPKQTEGHRFCESCMALLSSSPKCTACQESTIKDKVFKDNCCKREITLALQVYCRNE 119  
DB 61 CSPKQTEGHRFCESCMALLSSSPKCTACQESTIKDKVFKDNCCKREITLALQVYCRNE 120  
QY 120 GRGCAEQLTLGHLVHLNKEOFEELPCLRADCKEVLKDLRDHVEKACKYREATCSHC 179  
DB 121 SRGCAEQLTLGHLVHLNKEOFEELPCVPDPCKEVLKDLRDHVEKACKYREATCSHC 180  
QY 180 KSQVPMIKLQKHEDTDCPCVVVSCPHKCSVOTLLRSELGAHLSECVNAPSTCSFRRYGCV 239  
DB 181 KSQVPMIALQKHEDTDCPCVVVSCPHKCSVOTLLRSELGAHLSECVNAPSTCSFRRYGCV 240  
QY 240 FQGTNOQIKAHFASAVQHVNLKEMSNLSLEKVSLLQNESVEKNKSTOSLHNQCSFEI 299  
DB 218 -----VSLQNESVEKNKSTOSLHNQCSFEI 244  
QY 300 EIEROKEMLRNNEKILHLQRYIDSQAERKLELDKEIRPFQRMWEADSMKSSVESLQNR 359  
DB 245 EIEROKEMLRNNEKILHLQRYIDSQAERKLELDKEIRPFQRMWEADSMKSSVESLQNR 304  
QY 360 VTELESVDKSAGQAARNTGLLESQLSRHDQTLVSHDIRLADMDLRFQVLETA SYNGVLIIW 419  
DB 305 VTELESVDKSAGQAARNTGLLESQLSRHDQTLVSHDIRLADMDLRFQVLETA SYNGVLIIW 364  
QY 420 KTRDYKRRKQEAVMGKTLSTYSQPFYTGFGYKMCARVYLLNDGKGTHTLSLFPVIMRG 479  
DB 365 KTRDYKRRKQEAVMGKTLSTYSQPFYTGFGYKMCARVYLLNDGKGTHTLSLFPVIMRG 424  
QY 480 EYDALLPMPFKOKVTLMMDQSSRRHLGDAFKPDPNSSSFKKPTGEMNIIASGCPVFAO 539  
DB 425 EYDALLPMPFKOKVTLMMDQSSRRHLGDAFKPDPNSSSFKKPTGEMNIIASGCPVFAO 484  
QY 540 TVLENGTYIKDDTIFIKYIVDTSLDDP 567  
DB 485 TVLENGTYIKDDTIFIKYIVDTSLDDP 512

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Job time : 40 secs